

The Fine Print

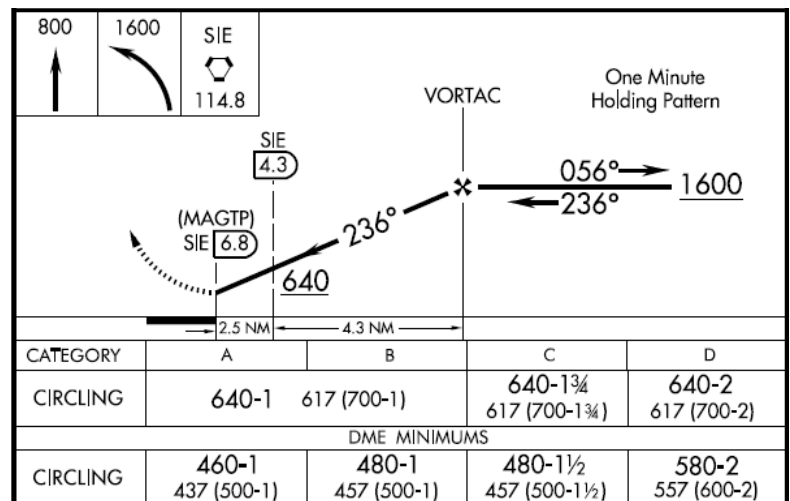
By Richard Bertoli, CSIP

Sometimes, the most useful information is the hardest to find. In this case, it's the hardest to read. The little numbers located at the bottom of the profile view of the instrument approach chart will be the focus, no pun intended, of this month's article.

DME minimums

Aside from a few bits in the NACO charts' miniature airport diagram, there is no finer print on the approach plate than the little numbers used to define distance between fixes on the profile view. For the pilot flying without an IFR certified GPS, this really isn't that big a deal. In the example here, clipped from the VOR or GPS-A at Wildwood, NJ (KWWD), all that pilot needs to use are the Sea Isle VORTAC (SIE) DME distances, contained inside the "D's", prominently located above the flight path.

Without DME equipment on board, the pilot is bound to the higher minimums and must use time to determine the missed approach point. Anyone remember shooting an approach in actual conditions and forgetting to start the kitchen timer crossing the final approach fix inbound? Ahh, the good ol' days...



Returning to the 21st century, flying this approach properly in Cirrus aircraft requires a slightly different tactic. While we don't have DME on board, we do have two IFR certified GPS navigation devices, which we may use in lieu of DME in accordance with the AIM 1-1-19. When this approach is loaded into the flight plan, we see that only SIE VORTAC and the missed approach waypoint MA236 are listed [MA236 has since been renamed to MAGTP]. Do not



expect a little light to blink on the PFD indicating when it's OK to descend below 640 feet to the MDA of 480 feet. (You guys *are* using Category B minimums, aren't you?) The 4.3 DME from SIE is not a named fix and is not contained in the Garmin's database. So how does the Cirrus pilot know when to descend to MDA?

We must remember that the Garmin will only navigate TO a waypoint in approach mode, and therefore will only count DOWN the distance to the active waypoint. Crossing SIE inbound from the race-track procedure

turn, the Garmin will then sequence to MAGTP, counting down from 6.8 miles until reaching MAGTP (MA236), at which time the pilot should execute the missed or an approach to landing. Take a look at the little numbers again and notice that the 4.3 DME fix from SIE is also 2.5 miles from MAGTP. When the aircraft is 2.5 miles from MAGTP, the pilot may descend below 640 feet to the MDA. As stated in the AIM 1-1-19 (f)(a)(c)(1)(c):

[c] If the fix is identified by a five letter name which is not contained in the GPS airborne database, or if the fix is not named, you must select the facility establishing the DME fix or another named DME fix as the active GPS WP.

NOTE-

An alternative, until all DME sources are in the database, is using a named DME fix as the active waypoint to identify unnamed DME fixes on the same course and from the same DME source as the active waypoint.

CAUTION-

Pilots should be extremely careful to ensure that correct distance measurements are used when utilizing this interim method. It is strongly recommended that pilots review distances for DME fixing during preflight preparation.

- this is a perfectly acceptable procedure in the eyes of the FAA, but more importantly, it's safe and can make the difference between breaking out below the clouds or a forced diversion.

Position Reporting and General Situational Awareness

“Small Town traffic, Cirrus 123CD, outside the marker inbound on a practice ILS, Small Town.” Do you think the student pilot in the pattern has any idea what the heck was just said or where this aircraft might be? Use the little numbers to report an approximate distance from the uncontrolled airport. This may require simple addition of between-fix distances, but the call should sound more like, “Small Town traffic, Cirrus 3CD, 11 miles south of the airport, descending through 2000 feet, for straight-in runway 36, Small Town.”

Setting up the Bearing or Aux blocks on the PFD can be very helpful when flying a localizer based approach. Not only does it make the calls described above easier, but situational awareness is improved with distance and time information displayed within the instrument scan.



It's in the details

It's easy to forget that, although GPS has become the navigation tool of choice, it's still the new kid on the block as far as IFR operations are concerned. The current instrument approach chart format is a direct reflection of this. The GPS equipped pilot must often look beyond the obvious to get the information he or she needs to safely fly in the IFR system. When expecting an unfamiliar approach, it is best to brief it on the ground, or at least well before arriving at the initial approach fix. Reading the fine print is easier on a level table in a well-lit room, instead of 5 miles from the fix, turning left to 210°, maintaining 2000 until established, cleared for approach... Isn't it?

WILDWOOD, NEW JERSEY

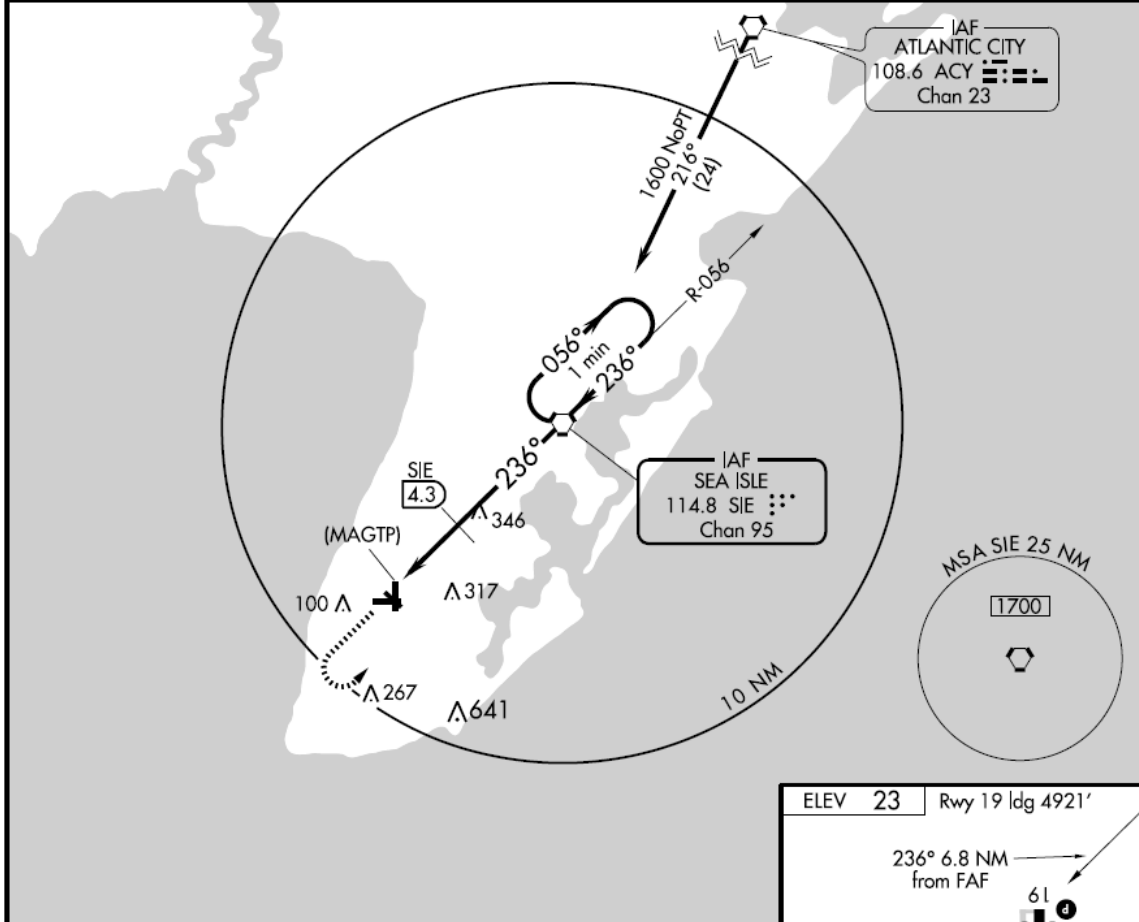
AL-476 (FAA)

| | | | |
|------------|---------|--------------|-----|
| VORTAC SIE | APP CRS | Rwy ldg TDZE | N/A |
| 114.8 | 236° | Apt Elev | 23 |
| Chan 95 | | | |

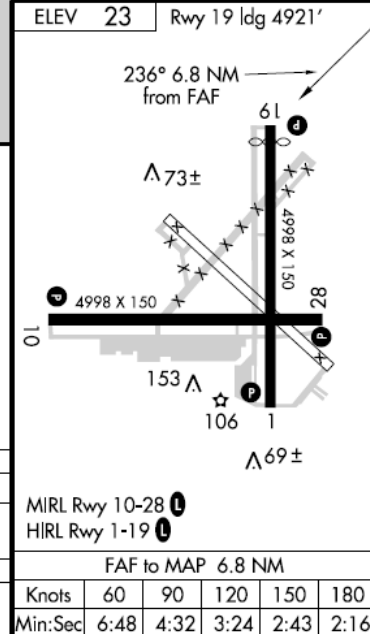
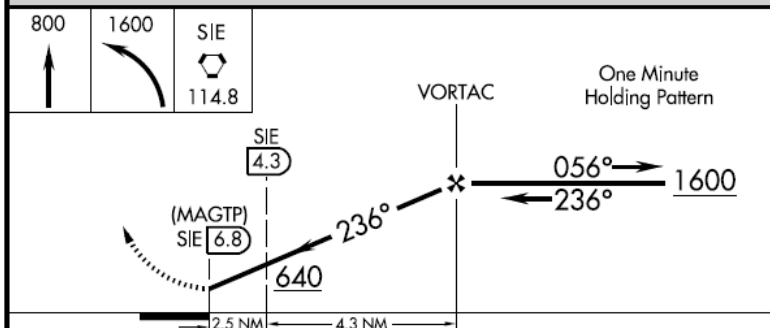
VOR or GPS-A
WILDWOOD / CAPE MAY COUNTY (WWD)

| | | | |
|--|-----------------------|--|----------------|
| Circling NA North of Rwy 28 and East of Rwy 19 Cat. C and D. | | MISSED APPROACH: Climb to 800, then climbing left turn to 1600 direct SIE VORTAC and hold. | |
| AWOS-3 | ATLANTIC CITY APP CON | CLNC DEL | UNICOM |
| 118.275 | 124.6 327.125 | 121.7 | 122.7 (CTAF) 0 |

NE-2, 04 AUG 2005 to 01 SEP 2005



NE-2, 04 AUG 2005 to 01 SEP 2005



| CATEGORY | A | B | C | D |
|--------------|----------------------|----------------------|------------------------|----------------------|
| CIRCLING | 640-1 | 617 (700-1) | 640-1¾ 617 (700-1¾) | 640-2 617 (700-2) |
| DME MINIMUMS | | | | |
| CIRCLING | 460-1 437 (500-1) | 480-1 457 (500-1) | 480-1½ 457 (500-1½) | 580-2 557 (600-2) |

| | |
|---|--------------------------|
| ELEV 23 | Rwy 19 ldg 4921' |
| 236° 6.8 NM from FAF | |
| 61 73± 4998 X 150 82 153 106 1 69± | |
| MIRL Rwy 10-28 0 | |
| HIRL Rwy 1-19 0 | |
| FAF to MAP 6.8 NM | |
| Knots | 60 90 120 150 180 |
| Min:Sec | 6:48 4:32 3:24 2:43 2:16 |

WILDWOOD, NEW JERSEY
Amdt 2A 03023

39°01'N-74°55'W

WILDWOOD / CAPE MAY COUNTY (WWD)
VOR or GPS-A